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HONEYWELL INTERNATIONAL INC.  
101 COLUMBIA ROAD  
P O BOX 2245  
MORRISTOWN, NJ 07962-2245

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| EXAMINER |
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SHUTE, DOUGLAS M

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| ART UNIT | PAPER NUMBER |
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2121

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/749,102

Applicant(s)

SCHUBRING ET AL.

Examiner

Douglas M. Shute

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-52 are presented for examination.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of

35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 11 recites the limitation "the pressure drop". There is insufficient antecedent basis for this limitation in the claim. Clarification is required.

4. Claims 16 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both claims recite "a number" which is unclear. Clarification is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 9, 20, 39, 40, and 44 are rejected under U.S.C. 102(b) as being anticipated by Den Dekker (5,674,381) (hereinafter Den Dekker).

7. As per claim 1, Den Dekker shows a replaceable media assembly (e.g., sole figure, element 2) for use with a system that receives the replaceable media (e.g., sole figure, element 1), the system having a controller (e.g., sole figure, element 7), the replaceable media assembly comprising: replaceable media (e.g., col. 2, lines 3-5, "guided through ... fluid"; storage means for storing information (e.g., sole figure, element 5), said storage means fixed to the replaceable media; and communication

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means for providing communication between the storage means and the controller of the system (e.g., sole figure, element 6 and wire connecting elements 6 and 7).

8. As per claim 2, it is rejected for reasons given above for claim 1 and also as Den Dekker shows the information stored in the storage means is used by the controller of the system to adjust the operation of the system (e.g., col. 1, lines 26-31, "It is ... label.").

9. As per claim 3, it is rejected for reasons given above for claim 1 and also as Den Dekker shows the information stored in the storage means relates to the replaceable media (e.g., col. 2, lines 39-42, "The program ... switched on.").

10. As per claim 4, it is rejected for reasons given above for claim 1 and also as Den Dekker shows the information stored in the storage means relates to the performance of the replaceable media (e.g., col. 2, lines 48-50, "For example, ... too long.").

11. As per claim 5, it is rejected for reasons given above for claim 1 and also as Den Dekker shows the storage means comprises a memory (e.g., col. 2, lines 26-28, "In these ... EEPROM").

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12. As per claim 9, it is rejected for reasons given above for claim 1 and also as Den Dekker shows the replaceable media comprises a filter (e.g., col. 1, lines 6-7, "The invention ... filter.").

13. As per claim 20, it is rejected for reasons given above for claim 1 and also for reasons given above for claim 4.

14. As per claim 39, it is rejected as being an analogous method to the system of claim 1 for the reasons given in the rejection of claim 1 above.

15. As per claim 40, it is rejected for reasons as given above for claim 39 and also as Den Dekker shows the replaceable media comprises a filter (e.g., col. 1, lines 6-7, "The invention ... filter.").

16. As per claim 44, it is rejected for reasons as given above for claim 39 and also as Den Dekker shows the storage means comprises a memory (e.g., col. 2, lines 26-28, "In these ... EEPROM").

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***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 6, 14-19, 21-25, 28-34, 37, 41, 45-48, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381) (hereinafter Den Dekker).

19. As per claim 6, it is rejected for reasons given above for claim 1 and further as Den Dekker shows the storage means can be a microcontroller (e.g., col. 2, lines 32-34, "the memory ... full computations."). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the

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microcontroller could be programmed as this is a well-known variety of microcontroller.

20. As per claim 14, it is rejected for reasons as given above for claim 1 and similar to those given above for claim 6 and further as it would have been obvious to one of ordinary skill in the art at the time the invention was made that a programmed microcontroller would contain a program.

21. As per claim 15, it is rejected for reasons as given above for claim 14 and further as it would have been obvious to one of ordinary skill in the art at the time the invention was made that the program could cause the micro-controller to communicate with the controller of the system as this represents well-known transfer of information operations between plural controllers in a system.

22. As per claim 16, as best understood, it is rejected for reasons as given above for claim 15 and further as Den Dekker shows the transfer of filter type information and number of filter operating hours (e.g., col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the program could cause the micro-controller to pass



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these performance parameters related to the replaceable media to the controller of the system as this represents well-known transfer of information operations between plural controllers in a system.

23. As per claim 17, it is rejected for reasons as given above for claim 15 and further as it would have been obvious to one of ordinary skill in the art at the time the invention was made that the program could cause the micro-controller to provide a software upgrade to the controller of the system as program driven software upgrades to controller system elements are well-known.

24. As per claim 18, it is rejected for reasons as given above for claim 1 and further as Den Dekker shows the use of filter type information (e.g., col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the filter type information stored in the storage means could include a serial number or model number of the replaceable media as serial numbers and model numbers are well-known types of identification mechanisms used in many diverse systems.

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25. As per claim 19, it is rejected for reasons given above for claim 18 and further as Den Dekker shows the controller of the system reading information from the storage means and determining the compatability of the replaceable media with the system (e.g., col. 1, lines 26-33, "It is ... situations."). It would have been obvious to one of ordinary skill in the art at the time the invention was made that this information could include serial number or model number as described above in the rejection of claim 18.

26. As per claim 21, it is rejected for similar reasons to those given above for claim 1. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the replaceable media assembly of claim 1 could be used in a HVAC environment as this is but one of many well-known environments which utilize some sort of filter. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the replaceable filter assembly could comprise a filter material and a carrier for carrying the filter material as this represents well-known filter construction and that the storage means could be attached to this carrier as this would provide a suitable anchor point for such storage means. It would have been further obvious to one of ordinary skill in the

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art at the time the invention was made that the communication means of claim 1 could be an electrical connecting means as this is a well-known type of communication mechanism.

27. As per claim 22, it is rejected for reasons given above for claim 21 and for reasons similar to those given above in the rejection of claim 2.

28. As per claim 23, it is rejected for reasons as given above for claim 21 and for reasons similar to those given above in the rejection of claim 5.

29. As per claim 24, it is rejected for reasons given above for claim 21 and for reasons similar to those given above in the rejection of claim 6.

30. As per claim 25, it is rejected for reasons as given above for claim 21 and further as Den Dekker shows the information stored in the storage means includes a time value that relates to the recommended replacement interval of the replaceable filter assembly (e.g., col. 1, lines 34-39, "In a further ... been reached.").

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31. As per claim 28, it is rejected for reasons as given above for claim 21 and further for reasons similar to those given above for claim 14.

32. As per claim 29, it is rejected for reasons as given above for claim 28 and further for reasons similar to those given above for claim 15.

33. As per claim 30, as best understood, it is rejected for reasons as given above for claim 29 and further for reasons similar to those given above for claim 16.

34. As per claim 31, it is rejected for reasons as given above for claim 29 and further for reasons similar to those given above for claim 17.

35. As per claim 32, it is rejected for reasons as given above for claim 21 and further for reasons similar to those given above for claim 18.

36. As per claim 33, it is rejected for reasons given above for claim 32 and further for reasons similar to those given above for claim 19.

37. As per claim 34, it is rejected for reasons as given above for claim 33 and further as Den Dekker shows notification to a user if the replaceable media is not compatible with the system (e.g., col. 1, lines 50-54, "With this indicating ... taken immediately.").

38. As per claim 37, it is rejected for reasons as given above for claim 34 and further as Den Dekker shows the notification can comprise a visual signal (e.g., col. 1, lines 47-48, "Preferably, ... or indicator lamps").

39. As per claim 41, it is rejected for reasons as given above for claim 39 and further for reasons similar to those given for claim 21 above.

40. As per claim 45, it is rejected for reasons as given above for claim 39 and further for reasons similar to those given above for claim 6.

41. As per claim 46, it is rejected as being analogous to the system of claim 17 for the reasons given in the rejection of claim 17 above and further as it would have been obvious to one

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of ordinary skill in the art at the time the invention was made that the communication means of claim 17 is analogous to electrically coupling the storage means to the controller of the system when the system receives the replaceable media assembly as in claim 46.

42. As per claim 47, it is rejected for reasons as given above for claim 46 and further for reasons similar to those given above for claim 9.

43. As per claim 48, it is rejected for reasons given above for claim 46 and further for reasons similar to those given above for claims 9 and 21.

44. As per claim 51, it is rejected for reasons given above for claim 46 and further for reasons similar to those given above for claim 5.

45. As per claim 52, it is rejected for reasons given above for claim 46 and further for reasons similar to those given above for claim 6.

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46. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381) (hereinafter Den Dekker) in view of Wegman et al. (6,418,283) (hereinafter Wegman).

47. As per claim 38, it is rejected for reasons as given above for claim 37. Further, Wegman shows the use of an audible message indicating correct cartridge utilization (e.g., col. 12, lines 64-67, "A proper ... help prevent"). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the correct model audible designation of Wegman could be utilized in the filtering system of Den Dekker in order to enhance overall system reliability by ensuring correct component utilization therein.

48. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381) (hereinafter Den Dekker) in view of Hoague (6,186,140) (hereinafter Hoague).

49. As per claim 7, it is rejected for reasons given above for claim 1. Further Hoague shows a filter system where the information stored in the storage means could include a time value that relates to the recommended replacement interval of the

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replaceable media assembly (e.g., col. 6, lines 36-41, "Also during ... to be replaced."). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the stored replacement time interval of Hoague could be utilized in the filtering apparatus of Den Dekker to provide enhanced system performance by providing an additional mechanism to ensure timely filter replacement as necessary.

50. Claims 10-13, 26-27, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381) (hereinafter Den Dekker) in view of Polidan et al. (5,606,311) (hereinafter Polidan).

51. As per claim 12, it is rejected for reasons given above for claim 9. Further, Polidan shows information stored in the storage medium which includes a maximum pressure drop value that relates to the expected pressure drop through the replaceable media when the replaceable media is dirty (e.g., col. 12, lines 1-7, "a memory ... rate"). It would have been obvious to one of ordinary skill in the art at the time the invention was made that this stored value relating to dirty replaceable media in Polidan could be utilized in the filtering apparatus of Den Dekker to provide enhanced system performance by providing an



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additional mechanism to ensure timely filter replacement as necessary.

52. As per claim 13, it is rejected for reasons as given above for claim 12. Further, Polidan shows that the controller of the system could read the maximum pressure drop value and provide a notification to change the filter when the system detects that the maximum pressure drop value is reached (e.g., col. 3, lines 37-46, "Alternatively, ... be described."). It would have been obvious to one of ordinary skill in the art at the time the invention was made that this notification of Polidan could be utilized in the filtering apparatus of Den Dekker to provide enhanced system performance by timely notification to a user that filter replacement is necessary.

53. As per claim 10, it is rejected for reasons as given above for claim 9 and for reasons similar to those given above for claim 12. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the stored pressure drop value of Polidan could relate to clean replaceable media vs. dirty replaceable media as this would just be one of any possible number of values representing various degrees of cleanliness or dirtiness as a particular circumstance warranted.

54. As per claim 11, as best understood, it is rejected for reasons given above for claim 10 and further for reasons similar to those given for claim 2.

55. As per claim 26, it is rejected for reasons given above for claim 21 and further for reasons similar to those given above for claim 12.

56. As per claim 27, it is rejected for reasons given above for claim 26 and further for reasons similar to those given above for claim 13. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made that a present pressure drop value could be read by a pressure sensor as this would represent a typical mechanism to determine such a pressure drop.

57. As per claim 35, it is rejected for reasons given above for claim 34. Further, Polidan shows the notification could comprise an audible signal (e.g., col. 3, lines 39-46, "In either case ... be described."). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the audible notification of Polidan could be utilized in the

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filtering apparatus of Den Dekker to provide enhanced system performance by timely notification to a user that filter replacement is necessary.

58. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381) (hereinafter Den Dekker) in view of Polidan et al. (5,606,311) (hereinafter Polidan) and in further view of Wegman et al. (6,418,283) (hereinafter Wegman).

59. As per claim 36, it is rejected for reasons as given above for claim 35. Further, Wegman shows the use of an audible message indicating correct cartridge utilization (e.g., col. 12, lines 64-67, "A proper ... help prevent"). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the correct model audible designation of Wegman could be utilized in the filtering system of Den Dekker in order to enhance overall system reliability by ensuring correct component utilization therein.

60. Claims 8, 42-43, and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Den Dekker (5,674,381)

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(hereinafter Den Dekker) in view of Beckhusen (6,222,445)

(hereinafter Beckhusen).

61. As per claim 8, it is rejected for reasons as given above for claim 1. Further, Beckhusen shows multiple service parameters which can be alternatively monitored to determine proper service intervals thereof such as an air cleaner filter or brake pad (e.g., col. 16, lines 44-50, "The service ... brake pad monitoring"). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made that there is an equivalent desirability in monitoring status of a brake pad with monitoring the status of an air filter such as is described in Den Dekker and it would therefor have been further obvious to one of ordinary skill in the art at the time the invention was made that brake pad monitoring could be substituted for air filter monitoring in the exemplary replaceable media system of Den Dekker.

62. As per claim 42, it is rejected for reasons as given above for claim 39 and further for reasons similar to those given re claim 8 above.

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63. As per claim 43, it is rejected for reasons as given above for claim 39 and further for reasons similar to those given re claim 8 above. It would have been further obvious to one of ordinary skill in the art at the time the invention was made that the replaceable brake pad could be utilized in a braking system as this would represent a typical brake pad environment.

64. As per claim 49, it is rejected for reason as given above for claim 46 and further for reasons similar to those given re claim 8 above.

65. As per claim 50, it is rejected for reasons as given above for claim 46 and further for reasons similar to those given re claim 8 above. It would have been further obvious to one of ordinary skill in the art at the time the invention was made that the replaceable brake pad could be utilized in a braking system as this would represent a typical brake pad environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Shute whose telephone number is (703) 305-5615. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on (703) 305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.



December 12, 2003



**ANIL KHATRI**  
**SUPERVISORY PATENT EXAMINER**